

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) Apparatus for separating CO₂ from a gas stream containing CO₂ and an anaesthetic gas, the apparatus comprising a gas separation device and means for transporting the gas stream at a periodically varying flow rate through the gas separation device, the device comprising a supported carrier liquid membrane in which the carrier species is an organic base present at a concentration sufficient to provide a separation factor α (CO₂, a),

$$\text{where } \alpha (\text{CO}_2, a) = \frac{R_{\text{CO}_2}}{p_{\text{CO}_2}} \cdot \frac{p_a}{R_a}$$

wherein R represents permeation rate, p partial pressure of a gas in the feed gas stream and a an anaesthetic gas, greater than unity.

2. (Original) Apparatus as claimed in claim 1, wherein the carrier species concentration is such as to provide an α value of at least 15.

3. (Original) Apparatus as claimed in claim 2, wherein the α value is at least 60.

4. (Currently amended) Apparatus as claimed in ~~any preceding~~ claim 1, wherein the device comprises a supported carrier liquid membrane in which the carrier is present in a concentration of at least 4.5 mol.dm⁻³.

5. (Original) Apparatus as claimed in claim 4, wherein the carrier is present in a concentration within the range of from 4.5 to 6 mol.dm⁻³.

6. (Currently amended) Apparatus as claimed ~~in any preceding~~ claim 1, wherein the base is selected from the group consisting of diethanolamine, ethanolamine and ethylenediamine.

7. (Cancel)

8. (Cancel)

9. (Cancel)

10. (Currently amended) Apparatus as claimed in ~~any preceding~~ claim 1, wherein the membrane support is a porous polymer.

11. (Original) Apparatus as claimed in claim 10, wherein the polymer is a polysulphone or polyacrylonitrile.

12. (Currently amended) Apparatus as claimed in ~~any preceding~~ claim 1, wherein the membrane is a hollow fibre membrane.

13. (Original) Apparatus as claimed in claim 12, wherein the membrane is in the form of a fibre bundle.

14. (Currently amended) Apparatus as claimed in ~~any preceding~~ claim 1, which also comprises means for generating a sweep gas stream.

15. (Original) Apparatus as claimed in claim 14, which comprises means for humidifying the sweep gas stream.

16. (Original) A device for separating gases which comprises a supported carrier liquid membrane in which the carrier is an organic base present in a concentration of at least 4.5 mol.dm^{-3} .

17. (Original) A device as claimed in claim 16, wherein the carrier is present in a concentration within the range of from 4.5 to 6 mol.dm^{-3} .

18. (Currently amended) A device as claimed in claim 16 ~~or claim 17~~, wherein the base is selected from the group consisting of diethanolamine, ethanolamine and ethylenediamine.

19. (Cancel)

20. (Cancel)

21. (Cancel)

22. (Original) A device as claimed in claim 21, wherein the polymer is a polysulphone or polyacrylonitrile.

23. (Currently amended) A device as claimed in ~~any one of claims 16 to 22~~ claim 16, wherein the membrane support is in the form of a hollow fibre.

24. (Original) A device as claimed in claim 23, wherein the membrane support is in the form of a fibre bundle.

25. (Currently amended) A device as claimed ~~in any one of claims 16 to 22~~ claim 16, wherein the membrane support is in sheet form.

26. (Currently amended) A device as claimed in claim 16, in which the gases to be separated are ~~for separating carbon dioxide from a gas stream containing~~ carbon dioxide and an anaesthetic gas, ~~which device comprises a supported carrier liquid membrane assembly in which the carrier is an organic base present in a concentration of at least 4.5 mol.dm⁻³.~~

27. (Cancel)

28. (Cancel)

29. (Cancel)

30. (Cancel)

31. (Cancel)

32. (Cancel)

33. (Cancel)

34. (Cancel)

35. (Currently amended) Apparatus as claimed in ~~any one of claims 1 to 13~~ claim 1, which also comprises a second supported carrier liquid membrane comprising the carrier species, means for transporting a sweep gas past the second membrane, a mass of carrier liquid contacting both membranes, and means for circulating carrier liquid past the membranes.

36. (New) A method of separating CO₂ from a gas stream containing CO₂ and an anaesthetic gas, which comprises transporting the gas stream at a periodically varying flow rate through a gas separation device, said device comprising a supported carrier liquid membrane in which the carrier species is an organic base present at a concentration sufficient to provide a separation factor α (CO₂, a),

$$\text{where } \alpha (\text{CO}_2, a) = \frac{R_{\text{CO}_2}}{P_{\text{CO}_2}} \cdot \frac{p_a}{R_a}$$

wherein R represents permeation rate, p partial pressure of a gas in the feed gas stream and a an anaesthetic gas, greater than unity.

37. (New) A method for separating gases in a gas stream, which comprises contacting the gas stream with a supported carrier liquid membrane in which the carrier is an organic base present in a concentration of at least 4.5 mol.dm⁻³.

38. (New) A method as claimed in claim 37, in which the gas stream comprises carbon dioxide and an anaesthetic gas.

39. (New) A method as claimed in claim 37, in which the gas stream is transported at a periodically varying flow rate over the supported carrier liquid membrane.